

- (i) it must be technically and economically feasible for new entrants to provide capacity consistent with the prediction;
- (ii) competitively significant entry using the technology envisioned for potential entrants must have occurred in other jurisdictions under comparable economic and regulatory conditions;¹⁰ and
- (iii) conduct in the industry would be rivalrous, either because the conduct of existing competitors (including the LEC) is rivalrous, or (to the extent existing competitors are insignificant) because conduct is rivalrous in other jurisdictions under comparable economic and regulatory conditions.¹¹

3. Facilities-based competition vs. resale competition

The competitive significance of resale activity is frequently misunderstood. True competition for a particular telecommunications service, including access, cannot be achieved without facilities-based competition. As long as a LEC remains the only actual or potential facilities-based provider of an essential service component, it controls the total quantity of that service component available to the market; since the LEC can induce either scarcity or abundance, it controls price. However, this does not imply that resale activity is irrelevant. On the contrary, resale plays two important roles.

First, resale can help to reduce or eliminate access price discrimination, i.e. price differentials that are unrelated to costs. As a result, an analysis of resale is an essential precursor to the definition of the relevant product market for access services. To put this issue somewhat differently, where there is efficient and competitive resale, certain market segments may inherit the competitive properties of other market segments.¹²

¹⁰Thus, if some alternative technology has never achieved meaningful commercial success in competition with a LEC in any jurisdiction, potential competition from that alternative technology should not be regarded as sufficient to limit the exercise of monopoly power by a LEC.

¹¹See below for further comments on evidence of rivalry.

¹²This issue has arisen previously in the context of long distance services. Elsewhere, Robert Willig and I have explained that, while resale could not (by itself) render the market for wholesale long distance services competitive, a non-competitive outcome in the retail segment of the long distance market cannot persist if the

Second, the ability to resell capacity permits a new entrant to accumulate facilities gradually. As a result, resale activity can reduce the sunk costs of entry by eventual facilities-based competitors. It is essential to understand, however, that the existence of competitive resale does not guarantee that entry barriers for facilities-based competitors are insignificant. Resale encourages, but does not guarantee, facilities-based competition. Thus, if true facilities-based competition does not materialize, the competitive effects of resale may be confined to limitations on price discrimination. Before an access service component is found to be competitive, there should be direct evidence of facilities-based competition, rather than mere inferences of potential facilities-based competition based on resale activity.¹³

4. Market conduct

The mere existence of facilities-based competitors may be insufficient to guarantee a competitive outcome. It is certainly possible that rival firms may settle into a stable oligopoly. This outcome is particularly likely when the service in question is provided by only two firms, and when there is little or no possibility of further entry. Suppose, for example, that at some point in the future cable television companies begin to offer cost-effective substitutes for existing local loops. Although this development would signal the arrival of a facilities-based competitor, cable companies and LECs could settle into stable, implicitly collusive duopolies, with little real effect on the level of competition.¹⁴ Thus, regulatory relief should not be

wholesale and resale segments are competitive (and if resale involves low transactions costs). Thus, retail long distance inherits the competitive properties of wholesale long distance. The same principles apply here. See B. Douglas Bernheim and Robert D. Willig, "An Analysis of the MFJ Line of Business Restrictions," pp. 133-135, Appendix A (Tab 1) to AT&T's December 7, 1994 Opposition to the Four RBOCs' Motion to Vacate the Decree, United States v. Western Electric Co., Civ. Action No. 82-0192 (HHG) (D.D.C.) ("Bernheim and Willig II").

¹³Robert Willig and I have applied this same standard in the context of long distance services (see Bernheim and Willig II, pp. 130-131). Although we noted that resale has contributed to the growth of facilities-based competition in the wholesale market segment, we based our evaluation of wholesale competition on direct evidence of facilities-based activity (market shares, pricing behavior, etc.), rather than on indirect evidence of the potential for facilities-based entry facilitated by resale.

¹⁴A similar issue arose in the context of the deliberations leading to the FCC's recent decision to classify AT&T as a non-dominant long distance carrier. As Robert Willig and I have demonstrated, there is no valid evidence of oligopolistic forbearance in the long distance market (Bernheim and Willig II, pp. 150-152, 158-164).

granted until a LEC demonstrates that there is clear evidence of significant rivalry between the LEC and other facilities-based competitive providers of the access service or component in question, and that there is minimal potential for implicit collusion between these parties once the subject service is deregulated. This showing should be required in each geographic market for which the LEC seeks reduced regulation.

5. Weighing the evidence on competitive activity

Because existing regulation has created departures from cost-based pricing, competition is more likely to develop for services that bear implicit “taxes.” These services may appear to satisfy rigorous competitive criteria, based on the existence of facilities-based competitors with significant market shares, evidence of rivalry, and so forth, but competition may exist only because regulated prices substantially exceed a LEC’s true economic costs. For example, price averaging requirements encourage CAPs to engage in “cream-skimming” by competing for high-volume business customers, for whom the LECs’ regulated access rates are well above costs. The Notice explicitly acknowledges this general proposition (at para. 25):

“Prices above costs also attract inefficient service providers. Prices establish important decision-making signals for both potential (and existing) suppliers of communications services as they do for users of these services. If the prices that LECs are permitted to charge are held above the competitive level by our regulations, inefficient entry may be encouraged.”

If the FCC chose to streamline regulation under the current circumstances, the effect could be to institutionalize existing departures from cost-based pricing. Therefore, it would be inappropriate to interpret evidence of competition as indicative of market discipline until such time as regulatory “taxes” and “subsidies” no longer distort economic incentives.

6. Establishing a presumption of competitiveness

A thorough examination of competitive conditions in each relevant access market (defined by product characteristics and geography) would consume a great deal of time and

resources. To ease the associated administrative burden, the FCC may wish to establish a rebuttable presumption of competition based on a simple set of clear, quantitative criteria.

Any such presumption should be treated as a supplement to, rather than a substitute for, thorough economic analysis. It is difficult to imagine a useful set of criteria that would guarantee vigorous competition; likewise, the failure to satisfy a simple test should not be taken as definitive proof that competition is absent. If a simple test is established, it should only be used to create a challengeable presumption in favor of (or, if not satisfied, against) competition.

As long as simple quantitative criteria are used in the manner described above, the FCC will retain the discretion to streamline regulation even when market conditions fall outside of the criteria -- provided thorough economic analysis of competitive conditions overcomes the associated presumption that competition is inadequate. Thus, to avoid the premature streamlining of many access markets, it is important to err on the side of caution when choosing the criteria, as has been the FCC's traditional approach.

AT&T has previously proposed a set of measurement criteria or "metrics" which could be used to assess the reasonableness of additional pricing flexibility for the LECs. Chief among these metrics is the requirement that at least 30 percent of subscribers in an area are in fact using alternative providers for local telephone service. AT&T's proposed metrics also provide that such service must be comparable in quality, coverage, price and capability to that of the incumbent LEC, and that it must be available from two or more alternative providers who are not dependent on the LEC for the facilities used to provide service. AT&T has suggested that at least 75 percent of subscribers in a LEC's exchange area should have access to such alternative providers.

AT&T's proposed metrics have the virtue of simplicity. However, due to their simplicity, they do not guarantee the existence of vigorous competition. It is also conceivable (but doubtful in the context of access services) that an adequate level of competition could exist even though one or more of these metrics is violated. Thus, it is appropriate to view

these metrics as a candidate for establishing a challengeable presumption for or against competition, as described above.

Viewed in this light, it is my opinion that AT&T's metrics are, if anything, insufficiently demanding. Even if these conditions were satisfied, there would be a substantial risk that a leading firm, with up to 70 percent of the market, could, either independently or in cooperation with its competitors, exercise significant market power (particularly over the potentially sizable fraction of customers who have no access to alternative providers). Consequently, the FCC should not establish a set of metrics that is any less demanding than the one proposed by AT&T.

III. STRATEGIES FOR STREAMLINING REGULATION IN RESPONSE TO EMERGING COMPETITION

In the Notice, the FCC has proposed a specific strategy for streamlining the regulation of access services in response to the anticipated emergence of competition. Unfortunately, the proposal is flawed as a matter of economic logic, and therefore is unlikely to promote the achievement of competitive outcomes. This section begins with a brief summary of the features of the FCC proposal that are salient for the purposes of my analysis. It then describes the economic incentives that proposal would generate, and shows how these incentives are contrary to the FCC's stated objectives. The section closes with a discussion of some alternative regulatory approaches.

A. Economic incentives arising from the FCC's proposal

For the purpose of this discussion, there are two salient features of the regulatory mechanism proposed by the FCC. First, as with the existing price cap system, the objects of regulation would be the prices of the individual components of access services, rather than the prices of complete services or other service bundles. Second, under this proposal, the price of any particular access service component would be subject to reduced regulation once that

service component is found to be competitive, regardless of the competitive status of complementary service components.

These two features reflect an implicit belief that, during the transition to a fully competitive local exchange environment, it would be appropriate to treat individual service components as if they were separate and unrelated services. This is incorrect as a matter of economic logic. The interrelations between complementary service components would create incentives for LEC behavior that are counter to the FCC's pro-competitive objectives.

Under the FCC's proposal, the regulation of some service components could be streamlined even though other complementary service components remain non-competitive. In the extreme, a LEC could be free to set any price for a streamlined service component, even though it continues to hold a bottleneck monopoly over an essential complementary service (such as local loops). It is well-established that regulatory schemes of this sort create strong incentives for anticompetitive behavior. Imagine that a firm possesses significant market power (perhaps a monopoly) in some service, and that regulation constrains its ability to extract monopoly rents through the price of that service. If this firm is permitted to integrate vertically into the provision of a competitively-provided complementary service, and if the price of that service is not regulated appropriately, it will have strong incentives to leverage its market power in the regulated market into the competitive market. Specifically, by limiting the usefulness of the non-competitive service to rival providers of the competitive service (e.g. through discriminatory pricing and/or interconnection, quality degradation, and the like), the provider of the non-competitive service can create the potential to extract monopoly rents through the price of the otherwise competitive service. In addition, if regulation links prices (implicitly or explicitly) to costs, the firm will also have an incentive to shift costs from the competitively provided service to the regulated service.¹⁵

¹⁵Since the FCC's proposal attempts to sever many of the remaining links between the costs and regulated prices of access services, the second concern (cost-shifting) may be somewhat attenuated. However, it is difficult to sever all of these links completely, if for no other reason than the fact that pressure builds to revise price caps when experience diverges significantly from expectations. In addition, certain components of access are also used to produce local services, which are regulated by the states. Many states continue to use rate-of-return regulation

To illustrate the potential for abuse of market power, imagine (for expositional simplicity) that there were only three access services components (loops, transport, and switching). Suppose that switching became competitive, and that the FCC streamlined regulation of this component as proposed in the Notice. A LEC could then exploit its market power in a variety of ways. The most direct approach would be to degrade the quality of complementary loop and transport services provided to those not making use of the LEC's switching service (e.g. through discriminatory interconnection). This would enable the LEC to raise the price of its switching service above competitive levels without diverting customers to rival suppliers.

Thus, the proposed regulatory response to the putative emergence of competition in individual access service components magnifies incentives for abuse -- both leveraging of market power, and cost shifting. It is important to emphasize that these issues did not arise in the context of reduced regulation of long distance service prices, precisely because AT&T did not have significant market power (let alone bottleneck control) over any essential service component that was complementary to long distance. Therefore, it is essential to avoid modeling the process for streamlining the regulation of the LECs on the process that was used for streamlining the regulation of AT&T. A much different strategy is required to account for the LEC's continuing bottleneck control of regulated facilities needed to provide access services.

B. Alternative regulatory strategies

There are a number of alternative approaches that would likely generate significantly better economic incentives than the FCC's proposal. Each of these alternatives should be considered carefully within the context of the full nexus of relevant issues before the FCC commits itself to any particular approach. In this section, I elaborate on the two alternatives that strike me as most promising.

or hybrid systems, under which significant incentives for cost-shifting persist. See Bernheim and Willig II, pp. 82-86.

1. Comprehensive price caps

As discussed above, the central incentive problems associated with the FCC's proposal arise from the failure to recognize and respect the interrelatedness of complementary access service components. By defining the objects of price cap regulation differently, incentives for competitive abuses could be significantly attenuated.

One possibility is to adopt a comprehensive price cap system in which every service component and every bundle of service components is separately subject to price cap regulation. The regulation of a particular service could be streamlined (and the service removed from its associated price cap basket) once all of its components are found to be competitive.¹⁶

To illustrate, imagine again that there were only three access services components: loops, transport, and switching. Initially, the FCC would regulate the prices of seven LEC service bundles: (i) loops, (ii) transport, (iii) switching, (iv) loops bundled with transport, (v) loops bundled with switching, (vi) transport bundled with switching, and (vii) loops bundled with transport and switching. If switching became competitive first, the FCC would streamline switching, but it would continue to price regulate all of the other LEC bundles, because they contain at least one non-competitive element. This would leave six of the original seven objects still subject to regulation. If transport subsequently became competitive as well, the FCC would then streamline transport, and transport bundled with switching. This would leave four of the original seven objects still subject to regulation: loops, and all bundles containing loops.

The primary advantage of this strategy is that the LEC's incentives to leverage market power are substantially reduced. To illustrate, consider again the hypothetical in which there are three access service components (loops, transport, and switching), and in which switching

¹⁶This regulatory framework is also applicable to the LECs' interexchange services. Price caps would be applicable to any bundle containing a LEC's interexchange service unless all components of the bundle, including access components, were competitive.

becomes competitive. The LEC's incentive to leverage market power from loops or transport into switching is severely limited, since any bundle containing switching (aside from switching alone) continues to be subject to price regulation. Even if the LEC degrades the quality of interconnection with loops and transport for those who use competitors' switching services, it cannot profitably raise the price of its own switching services, since this would divert customers to its own regulated complete access service (the bundle consisting of loop, transport, and switching services).¹⁷

Some incentive to leverage market power could remain if, for example, regulated prices provided the LEC with a greater profit margin on the complete bundle consisting of loops, transport, and switching, than on the partial bundle consisting of loops and transport alone. In that case, the LEC would have an interest in diverting demand (e.g. through discriminatory interconnection) from the partial bundle to the complete bundle. The remaining incentive to leverage market power would disappear, however, if the LEC earned the same profit margin on each regulated bundle. In principle, this condition (equal profit margins) can be achieved through an imputation rule. Even if it is only practical to impose the imputation requirement as an approximation, the combination of comprehensive price caps and imputation would provide the LECs' with significantly less incentive to leverage market power than would exist under the FCC's proposal.¹⁸

¹⁷Thus, the availability of the regulated unitary access service provides the ultimate check on the LEC's ability to raise the price of its unbundled switching service. For this reason, it is important to continue to require the LECs to offer unitary access services, even after the components of these unitary services are made available on an unbundled basis.

¹⁸It is also possible to reduce or eliminate the incentives for leveraging of market power by applying price caps only to complete access services (rather than to all bundles, or to components in isolation), while extending the scope of regulation to include all vendors, and not just the LECs. Under this alternative, it would only be appropriate to streamline the regulation of an access service after every component was found to be competitive. However, this strategy is contrary to the FCC's stated objective of reducing the scope of regulation as rapidly as competition permits.

APPENDIX B

2. A structural alternative

Designing an appropriate transitional regulatory system necessitates difficult compromises between different objectives. The complexity of the regulatory problem is a direct outgrowth of the very real possibility that some access service components may become competitive long before others, leaving the LEC as a vertically integrated producer of competitive services and complementary non-competitive services. Accordingly, one method of promoting a smooth transition to a competitive environment is to require divestiture of a service component once that component becomes competitive. While seemingly drastic, a divestiture requirement might have few adverse consequences. For example, if a service component is in fact truly competitive, then vendors other than the LEC must be capable of offering close substitutes on a cost-effective basis; in that case, production of the component by the LEC itself presumably offers no special advantages.

This structural alternative merits consideration because it simplifies the residual problem of designing an appropriate regulatory system for the non-competitive components that remain within the purview of the LEC's activities. In addition, this approach reduces the likelihood that a LEC would press prematurely for regulatory relief.

IV. CONCLUSIONS

The FCC's proposal for streamlined regulation of LEC access services is flawed as a matter of economic logic, and therefore unlikely to further the pro-competitive objectives of the FCC. On the contrary, it provides the LECs with ample opportunities to exercise, extend, and further entrench existing monopoly power. Many of the problems associated with the FCC's proposal could be resolved by using more appropriate definitions of the relevant product and geographic markets, by imposing more demanding and explicit criteria for evaluating competitive intensity, and by designing an alternative plan for progressively streamlining regulation that explicitly recognizes the interdependencies of complementary competitive and non-competitive services.

**IMPACT OF ELIMINATING LOWER SERVICE BAND LIMITS
ON LEC PRICING FLEXIBILITY**

**APPENDIX B
EXAMPLE-1**

Current Rules: YEAR 1 5% upper and 10% lower service band limits					Current Rules: YEAR 2 5% upper and 10% lower service band limits					Current Rules: YEAR 3 5% upper and 10% lower service band limits				
PCI(t-1)		100.0000			PCI(t-1)		100.0000			PCI(t-1)		100.0000		
PCI(t)		100.0000			PCI(t)		100.0000			PCI(t)		100.0000		
REVENUE(t-1)		\$5,000			REVENUE(t-1)		\$5,000			REVENUE(t-1)		\$5,000		
REVENUES(t)		\$5,000			REVENUES(t)		\$5,000			REVENUES(t)		\$5,000		
API(t-1)		100.0000			API(t-1)		100.0000			API(t-1)		100.0000		
API(t)		100.0000			API(t)		100.0000			API(t)		100.0000		
BAND 1					BAND 1					BAND 1				
	Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev
Total	\$1,000	\$1,050	\$900	\$900	Total	\$900	\$945	\$810	\$810	Total	\$810	\$851	\$729	\$729
SBI(t-1)	100.0000				SBI(t-1)	90.0000				SBI(t-1)	81.0000			
SBI(t)	90.0000				SBI(t)	81.0000				SBI(t)	72.9000			
Upper Limit	105.00%				Upper Limit	94.50%				Upper Limit	85.05%			
Lower Limit	90.00%				Lower Limit	81.00%				Lower Limit	72.90%			
BAND 2					BAND 2					BAND 2				
	Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev
Total	\$4,000	\$4,200	\$3,600	\$4,100	Total	\$4,100	\$4,305	\$3,690	\$4,190	Total	\$4,190	\$4,400	\$3,771	\$4,271
SBI(t-1)	100.0000				SBI(t-1)	100.0000				SBI(t-1)	100.0000			
SBI(t)	102.5000				SBI(t)	102.1951				SBI(t)	101.9332			
Upper Limit	105.00%				Upper Limit	105.00%				Upper Limit	105.00%			
Lower Limit	90.00%				Lower Limit	90.00%				Lower Limit	90.00%			
	Current Year	Cumm. Total				Current Year	Cumm. Total				Current Year	Cumm. Total		
BAND 1 Rev. +/-	(\$100)	(\$100)			BAND 1 Rev. +/-	(\$90)	(\$190)			BAND 1 Rev. +/-	(\$81)	(\$271)		
BAND 2 Rev. +/-	\$100	\$100			BAND 2 Rev. +/-	\$90	\$190			BAND 2 Rev. +/-	\$81	\$271		

Note 1: Assume that PCI and Volumes remain constant.

Note 2: $API(t)$ is calculated by the formula $API(t) = API(t-1) * (\text{Proposed Basket Revenues} / \text{Current Basket Revenues})$

Note 3: $SBI(t)$ is calculated by the formula $SBI(t) = SBI(t-1) * (\text{Proposed Band Revenues} / \text{Current Band Revenues})$

**IMPACT OF ELIMINATING LOWER SERVICE BAND LIMITS
ON LEC PRICING FLEXIBILITY**

**APPENDIX B
EXAMPLE-2**

Proposed Rules 5% upper and 0% lower service band limits					YEAR 1					Proposed Rules 5% upper and 0% lower service band limits					YEAR 2					Proposed Rules 5% upper and 0% lower service band limits					YEAR 3							
PCI(t-1)		100.0000								PCI(t-1)		100.0000								PCI(t-1)		100.0000										
PCI(t)		100.0000								PCI(t)		100.0000								PCI(t)		100.0000										
REVENUE(t-1)		\$5,000			API(t-1) 100.0000					REVENUE(t-1)		\$5,000			API(t-1) 100.0000					REVENUE(t-1)		\$5,000			API(t-1) 100.0000							
REVENUES(t)		\$5,000			API(t) 100.0000					REVENUES(t)		\$5,000			API(t) 100.0000					REVENUES(t)		\$5,000			API(t) 100.0000							
BAND 1										BAND 1										BAND 1												
	Current Rev	Upper Flex	Lower Flex	Prop Rev							Current Rev	Upper Flex	Lower Flex	Prop Rev							Current Rev	Upper Flex	Lower Flex	Prop Rev								
Total	\$1,000	\$1,050	\$0	\$800						Total	\$800	\$840	\$0	\$590						Total	\$590	\$620	\$0	\$370								
SBI(t-1)	100.0000									SBI(t-1)	80.0000									SBI(t-1)	59.0000											
SBI(t)	80.0000									SBI(t)	59.0000									SBI(t)	36.9500											
Upper Limit	105.00%									Upper Limit	84.00%									Upper Limit	61.95%											
Lower Limit	0.00%									Lower Limit	0.00%									Lower Limit	0.00%											
BAND 2										BAND 2										BAND 2												
	Current Rev	Upper Flex	Lower Flex	Prop Rev							Current Rev	Upper Flex	Lower Flex	Prop Rev							Current Rev	Upper Flex	Lower Flex	Prop Rev								
Total	\$4,000	\$4,200	\$0	\$4,200						Total	\$4,200	\$4,410	\$0	\$4,410						Total	\$4,410	\$4,631	\$0	\$4,631								
SBI(t-1)	100.0000									SBI(t-1)	105.0000									SBI(t-1)	110.2500											
SBI(t)	105.0000									SBI(t)	110.2500									SBI(t)	115.7625											
Upper Limit	105.00%									Upper Limit	110.25%									Upper Limit	115.76%											
Lower Limit	0.00%									Lower Limit	0.00%									Lower Limit	0.00%											
	Current Year	Cumm. Total										Current Year	Cumm. Total										Current Year	Cumm. Total								
BAND 1 Rev. +/-	(\$200)	(\$200)									BAND 1 Rev. +/-	(\$210)	(\$410)									BAND 1 Rev. +/-	(\$221)	(\$631)								
BAND 2 Rev. +/-	\$200	\$200									BAND 2 Rev. +/-	\$210	\$410									BAND 2 Rev. +/-	\$221	\$631								

Note 1: Assume that PCI and Volumes remain constant.

Note 2: $API(t)$ is calculated by the formula $API(t) = API(t-1) * (\text{Proposed Basket Revenues} / \text{Current Basket Revenues})$

Note 3: $SBI(t)$ is calculated by the formula $SBI(t) = SBI(t-1) * (\text{Proposed Band Revenues} / \text{Current Band Revenues})$

**IMPACT OF ELIMINATING LOWER SERVICE BAND LIMITS
ON LEC PRICING FLEXIBILITY**

**APPENDIX B
EXAMPLE-3**

Proposed Rules:					YEAR 1				
5% upper and 10% lower service band limits					5% upper and 10% lower service band limits				
LECs are allowed to file below band rates.					LECs are allowed to file below band rates.				
1% upper SBI limit,after below band rate decrease.					1% upper SBI limit,after below band rate decrease.				
PCI(t-1)	100.0000				PCI(t-1)	100.0000			
PCI(t)	100.0000				PCI(t)	100.0000			
REVENUE(t-1)	\$5,000	API(t-1)	100.0000		REVENUE(t-1)	\$5,000	API(t-1)	100.0000	
REVENUES(t)	\$5,000	API(t)	100.0000		REVENUES(t)	\$5,000	API(t)	100.0000	
BAND 1					BAND 1				
	Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev
Total	\$1,000	\$1,010	\$900	\$800	Total	\$800	\$808	\$576	\$590
SBI(t-1)	100.0000				SBI(t-1)	80.0000			
SBI(t)	80.0000				SBI(t)	59.0000			
Upper Limit	101.00%				Upper Limit	80.80%			
Lower Limit	90.00%				Lower Limit	72.00%			
BAND 2					BAND 2				
	Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev
Total	\$4,000	\$4,200	\$3,600	\$4,200	Total	\$4,200	\$4,410	\$3,969	\$4,410
SBI(t-1)	100.0000				SBI(t-1)	105.0000			
SBI(t)	105.0000				SBI(t)	110.2500			
Upper Limit	105.00%				Upper Limit	110.25%			
Lower Limit	90.00%				Lower Limit	94.50%			
	Current Year	Cumm. Total				Current Year	Cumm. Total		
BAND 1 Rev. +/-	(\$200)	(\$200)			BAND 1 Rev. +/-	(\$210)	(\$410)		
BAND 2 Rev. +/-	\$200	\$200			BAND 2 Rev. +/-	\$210	\$410		

Proposed Rules:					YEAR 2				
5% upper and 10% lower service band limits					5% upper and 10% lower service band limits				
LECs are allowed to file below band rates.					LECs are allowed to file below band rates.				
1% upper SBI limit,after below band rate decrease.					1% upper SBI limit,after below band rate decrease.				
PCI(t-1)	100.0000				PCI(t-1)	100.0000			
PCI(t)	100.0000				PCI(t)	100.0000			
REVENUE(t-1)	\$5,000	API(t-1)	100.0000		REVENUE(t-1)	\$5,000	API(t-1)	100.0000	
REVENUES(t)	\$5,000	API(t)	100.0000		REVENUES(t)	\$5,000	API(t)	100.0000	
BAND 1					BAND 1				
	Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev
Total	\$1,000	\$1,010	\$900	\$800	Total	\$800	\$808	\$576	\$590
SBI(t-1)	100.0000				SBI(t-1)	80.0000			
SBI(t)	80.0000				SBI(t)	59.0000			
Upper Limit	101.00%				Upper Limit	80.80%			
Lower Limit	90.00%				Lower Limit	72.00%			
BAND 2					BAND 2				
	Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev
Total	\$4,000	\$4,200	\$3,600	\$4,200	Total	\$4,200	\$4,410	\$3,969	\$4,410
SBI(t-1)	100.0000				SBI(t-1)	105.0000			
SBI(t)	105.0000				SBI(t)	110.2500			
Upper Limit	105.00%				Upper Limit	110.25%			
Lower Limit	90.00%				Lower Limit	94.50%			
	Current Year	Cumm. Total				Current Year	Cumm. Total		
BAND 1 Rev. +/-	(\$200)	(\$200)			BAND 1 Rev. +/-	(\$210)	(\$410)		
BAND 2 Rev. +/-	\$200	\$200			BAND 2 Rev. +/-	\$210	\$410		

Proposed Rules:					YEAR 3				
5% upper and 10% lower service band limits					5% upper and 10% lower service band limits				
LECs are allowed to file below band rates.					LECs are allowed to file below band rates.				
1% upper SBI limit,after below band rate decrease.					1% upper SBI limit,after below band rate decrease.				
PCI(t-1)	100.0000				PCI(t-1)	100.0000			
PCI(t)	100.0000				PCI(t)	100.0000			
REVENUE(t-1)	\$5,000	API(t-1)	100.0000		REVENUE(t-1)	\$5,000	API(t-1)	100.0000	
REVENUES(t)	\$5,000	API(t)	100.0000		REVENUES(t)	\$5,000	API(t)	100.0000	
BAND 1					BAND 1				
	Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev
Total	\$590	\$620	\$313	\$370	Total	\$590	\$620	\$313	\$370
SBI(t-1)	59.0000				SBI(t-1)	59.0000			
SBI(t)	36.9500				SBI(t)	36.9500			
Upper Limit	59.59%				Upper Limit	59.59%			
Lower Limit	53.10%				Lower Limit	53.10%			
BAND 2					BAND 2				
	Current Rev	Upper Flex	Lower Flex	Prop Rev		Current Rev	Upper Flex	Lower Flex	Prop Rev
Total	\$4,410	\$4,631	\$4,376	\$4,631	Total	\$4,410	\$4,631	\$4,376	\$4,631
SBI(t-1)	110.2500				SBI(t-1)	110.2500			
SBI(t)	115.7625				SBI(t)	115.7625			
Upper Limit	115.76%				Upper Limit	115.76%			
Lower Limit	99.23%				Lower Limit	99.23%			
	Current Year	Cumm. Total				Current Year	Cumm. Total		
BAND 1 Rev. +/-	(\$221)	(\$631)			BAND 1 Rev. +/-	(\$221)	(\$631)		
BAND 2 Rev. +/-	\$221	\$631			BAND 2 Rev. +/-	\$221	\$631		

Note 1: Assume that PCI and Volumes remain constant.

Note 2: API(t) is calculated by the formula $API(t) = API(t-1) * (\text{Proposed Basket Revenues} / \text{Current Basket Revenues})$

Note 3: SBI(t) is calculated by the formula $SBI(t) = SBI(t-1) * (\text{Proposed Band Revenues} / \text{Current Band Revenues})$